



BROAD AGENCY ANNOUNCEMENT (BAA)

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2). A formal Request for Proposals (RFP), solicitation, and/or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to select for award all some or none of the proposals in response to this announcement. The ONR reserves the right to fund all, some or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

I. GENERAL INFORMATION

1. Agency Name -

Office of Naval Research,
Ballston Center Tower One
800 N. Quincy Street
Arlington, VA 22217-5660

2. Research Opportunity Title -

RESEARCH AND DEVELOPMENT OF AN INDIVIDUAL WATER PURIFIER

3. Program Name – N/A

4. Research Opportunity Number -

ONR BAA – 03-010

5. Response Date -

White Papers: 13 June 2003

Full Proposals: 22 July 2003

6. Research Opportunity Description -

Background:

A program sponsored by the Defense Science Office (DSO) of the Defense Advanced Research Projects Agency (DARPA) in the late 1990's focused on the development of technologies to allow an individual soldier or Marine to produce potable water from any source of opportunity. The most promising results of this research was a system consisting of a disinfection pen and a hand pumped reverse osmosis (RO) system. The disinfection pen utilizes the technology of electrolytic produced mixed oxidants which have been shown to be effective in treating water borne pathogens, biological agents and some chemical agents. The RO system developed used an innovative hand pump design that was very efficient in recovering energy from the system, reducing the overall force needed to desalinate water. A variety of RO membrane improvements were also developed to improve performance. These included higher area membranes and improved feed spacer designs.

Objective:

The Office of Naval Research (ONR 353) is soliciting White papers and proposals in the area of water purification technologies that would capitalize and leverage the DARPA research in order to facilitate the development of an Individual Water Purifier (IWP) capable of treating fresh, brackish, and salt water sources. The overall goals would be to increase the throughput and to reduce the size and weight of the unit.

Desired Capabilities of the IWP

The Marine Corps has identified the IWP as a capability that is needed by the individual Marines in certain tactical situations where potable water is not readily available. The IWP is envisioned as a small, lightweight system that each Marine could carry with them to produce and disinfect water from all sources. The following are a list of desired capabilities for the IWP:

1. All components of the system shall be compatible with present and future NBC suits, nozzles, and check valves.

2. Disinfection portion of system shall not weigh more than six (6 oz) dry weight and shall not impart a strong disinfectant residual taste in the treated water. This system shall be capable of treating waterborne pathogens including bacteria, viruses, and protozoan cysts.
3. System shall be able to treat 300 L of water prior to replacement of any major components. If batteries are required they shall be commercially available and included in the overall weight of the disinfection system.
4. System shall be modular in design to tailor its use depending on the source water, upgradeable, lightweight, durable, easy to maintain and clean and man packable.
5. System shall be resistant to bio film buildup on membrane surfaces
6. System when wet, shall be capable of enduring freezing temperatures with no degradation to components upon thawing.
7. For freshwater sources, system shall weigh less than 24 ounces (dry weight) including water storage container, carrying case or backpack, and purification and disinfection components.
8. Freshwater and desalination components shall be modular and easily separated. If not needed desalination components shall be separated and not be integral part of basic system.
9. Desalination device shall not weigh more than 24 ounces (dry weight) and shall be capable of producing 1 liter of purified water from a saltwater source (35,000 mg/L) in 15 minutes.
10. The fresh water and desalination components shall be capable of removing and /or destroying contaminants from all types of water (fresh, brackish, salt) to levels established by EPA and military to potable water standards. Contaminants include silt, clay, dirt, sand, mud, salt (TDS), water borne pathogens, biological agents, chemical agents, pesticides, insecticides, and other organic materials. Level of removal is desired to 99.999%.

Note: Some of these capabilities may be part of a phased in technology improvement program for a baseline IWP system.

Research Areas

White papers and proposals are encouraged in the following topic areas:

- a) Technologies to improve reverse osmosis (RO) membrane performance (increased area, feed spacer designs, etc.)
- b) Technologies to reduce energy required for small-scale desalination systems.
- c) Technologies to increase product water output by 25% versus conventional systems.
- d) Technologies to reduce size and weight of small-scale system components by 25%.
- e) Technologies to improve disinfection capabilities for removal and destruction of nuclear, biological and chemical agents.
- f) Integration and optimization of components to achieve individual water purifier system.

It is not the intent of this solicitation to establish new facilities; investigators should be able to demonstrate the required research capability and the necessary facilities. White papers and proposals whose main objectives are to conduct analyses, literature reviews, or program evaluations are not encouraged.

7. Points of Contact -

Questions of a technical nature shall be directed to the cognizant Technical Point of Contact, as specified below:

Science and Technology Point of Contact:

Point of Contact Name: Major Craig Penrose
Point of Contact Occupation Title: Logistics Science and Technology Program Project Officer
Division Title: Expeditionary Warfare Operations Technology Division
Division Code: ONR 353
Address: Office of Naval Research
Ballston Center Tower One, Room 817
800 N. Quincy St.
Arlington, VA 22217-5660
Telephone Number: (703)-696-2561
Facsimile Number: (703)-696-2558
Email Address: Craig_Penrose@onr.navy.mil

Questions of a business nature shall be directed to the cognizant Business Point of Contact, as specified below:

Business Point of Contact:

Point of Contact Name: Mr. Ross Saxton
Point of Contact Occupation Title: Contract Specialist
Division Title: Contract & Grant Awards, Management
Division Code: Code ONR 0253
Address: Office of Naval Research
Ballston Center Tower One, Room 720
800 N. Quincy St.
Arlington, VA 22217-5660
Telephone Number: (703)-696-8374
Facsimile Number: (703)-696-0066
Email Address: saxtonr@onr.navy.mil

8. Instrument Types -

It is anticipated that awards may take the form of contracts, grants, cooperative agreements and other transaction agreements, as appropriate.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers -

CFDA No: 12.300

10. Catalog of Federal Domestic Assistance (CFDA) Titles -

CFDA Title: Basic and Applied Scientific Research - ONR

11. Additional Information – N/A

II. AWARD INFORMATION

*Estimated Total Amount of Funding Available: \$400,000.00

*Anticipated Number of Awards: 1 - 4

III. ELIGIBILITY INFORMATION

This solicitation is open to all responsible sources other than Government entities and Federally Funded Research and Development Centers (FFRDCs).

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process -

White Papers are encouraged prior to submitting a Full Proposal –

The due date for White Papers is no later than 2 p.m. (EDT) on 06/13/2003. The Navy's initial evaluation of the White Papers should give Offerors some indication of whether a Full Proposal might result in an award. Initial Navy evaluations of the White Papers will be issued via E-mail or a letter on or about 07/1/2003. Detailed technical and cost proposals will be subsequently encouraged from those Offerors whose proposed technologies have been identified through the above-referenced E-mail or letter as being of "particular value" to the Navy. However, any such encouragement does not assure a subsequent award. Any Offeror may submit a Full Proposal even if its White Paper was not identified as being of "particular value" or even if it submitted no White Paper.

Full Proposals - The due date for receipt of Full Proposals is 2 p.m. (EDT) on 07/22/2003. It is anticipated that final selections will be made by 08/15/2003. Proposals received after the published due date may be considered for funding at a later time if funding is available. As soon as the final proposal evaluation process is completed, the Offeror will be notified via email or letter of its selection or non-selection for an award. Proposals exceeding the page limit may not be evaluated.

2. Content and Format of White Papers/Full Proposals -

The Proposals submitted under this BAA are expected to be unclassified. However, confidential/classified proposals are permitted. The Proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information. Classified proposals must be submitted directly to the Technical Point of Contact identified in Section 7 of this BAA. Contracts or other instruments resulting from a classified proposal will be unclassified so an unclassified statement of work must accompany any classified proposal.

White Paper Format

- Paper Size – 8.5 x 11 inch paper
- Margins – 1” inch
- Spacing – 1.5 or double-spaced
- Font – Times New Roman, 12 point
- Number of Pages – No more than 5 single-sided pages (excluding cover page and resumes). White Papers exceeding the page limit may not be evaluated.
- Copies – one (1) original, 4 copies, and one electronic copy on a 3.5” Diskette or CD-ROM (in MS Word and Excel '97 compatible)

Full Proposal Format – Volume 1 - Technical and Volume 2 - Cost Proposal

- Paper Size – 8.5 x 11 inch paper
- Margins – 1” inch
- Spacing – 1.5 or double-spaced
- Font – Times New Roman, 12 point
- Number of Pages – Volume 1 is limited to no more than 17 pages. There is no page limit for Volume II. Limitations within sections of the proposal are indicated in the individual descriptions shown below. The cover page, table of contents, and resumes are excluded from the page limitations. Full Proposals exceeding the page limit may not be evaluated.
- Copies – one (1) original, five (5) copies and one (1) electronic copy on a 3.5” Diskette or CD-ROM, (in Microsoft® Word and Excel 97 compatible).

White paper Content

- Cover Page – The Cover Page shall be labeled “WHITE PAPER”, and shall include the BAA number, proposed title, Offeror’s administrative and technical points of contact, with telephone numbers, facsimile numbers, and Internet addresses, and shall be signed by an authorized officer.
- Technical approach and objectives to include a description of overall research objectives, focus area, limitations of current technologies and the proposed technical solution.

- Naval and Scientific Significance – How and where would the proposed research improve or enable development on a IWP and what are the expected benefits?

Full Proposal Content

Volume 1: Technical Proposal

- **Cover Page:** This should include the words “Technical Proposal” and the following:
 - 1) BAA number;
 - 2) Title of Proposal;
 - 3) Identity of prime Offeror and complete list of subcontractors, if applicable;
 - 4) Technical contact (name, address, phone/fax, electronic mail address)
 - 5) Administrative/business contact (name, address, phone/fax, electronic mail address) and;
 - 6) Duration of effort (differentiate basic effort and options)
- **Table of Contents:**
- **Technical Approach:** (5 pages) A description of the research problem, research objectives, limitations of current technologies, how research improves on what is currently available, proposed technical solution, research validation criteria, impact on the IWP concept and expected benefits.
- **Statement of Work:** (5 pages) A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year.
- **Project Schedule and Milestones:** (1 page) A summary of the schedule of events and milestones.
- **Assertion of Data Rights:** (Not included in page limitations) Include here a summary of any proprietary rights to pre-existing results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. Any data rights asserted in other parts of the proposal that would impact the rights in this section must be cross-referenced. If there are proprietary rights, the Offeror must explain how these affect its ability to deliver research data, subsystems and toolkits for integration. Additionally, Offerors must explain how the program goals are achievable in light of these proprietary limitations. If there

are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect.

- **Deliverables:** (1 page) A detailed description of the results and products to be delivered.
- **Management Approach:** (5 pages) A discussion of the overall approach to the management of this effort, including brief discussions of the total organization, use of personnel; project/function/subcontractor relationships; government research interfaces; and planning, scheduling and control practice. Identify which personnel and subcontractors (if any) will be involved. Include a description of the facilities that are required for the proposed effort with a description of any Government Furnished Equipment/Hardware/Software/Information required, by version and/or configuration.

VOLUME 2: Cost Proposal

The Cost Proposal shall consist of a cover page and two parts. Part 1 will provide a detailed cost breakdown of all costs, by cost category, by calendar, or Gov't fiscal year and Part 2 will provide a cost breakdown by task/sub-task, corresponding to the task numbers in the proposed Statement of Work. Options must be separately priced.

Cover Page: The use of the SF 1411 is optional. The words “Cost Proposal” should appear on the cover page in addition to the following information:

- BAA number
- Title of Proposal
- Identity of prime Offeror and complete list of subcontractors, if applicable
- Technical contact (name, address, phone/fax, electronic mail address)
- Administrative/business contact (name, address, phone/fax, electronic mail address) and
- Duration of effort (separately identify basic effort and any proposed options)

Part 1: Detailed breakdown of all costs, by cost category, by calendar, or Gov't fiscal year:

- Direct Labor – Individual labor category or person, with associated labor hours and unburdened direct labor rates
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate)
- Travel – Number of trips, destination, duration, etc.
- Subcontract – A cost proposal as detailed as the Offeror's cost proposal will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be requested from the subcontractor at a later date

- Consultant – Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate
- Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Include a brief description of the Offeror's procurement method to be used (Competition, engineering estimate, market survey, etc.)
- Other Directs Costs, particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. (Justifications must be provided when Government funding for such items is sought). Include a brief description of the Offeror's procurement method to be used (Competition, engineering estimate, market survey, etc.)
- Fee/Profit including fee percentage.

Part 2 : Cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

3. Significant Dates and Times-

| Anticipated Schedule of Events * | | |
|--|--------------------------|-------------------|
| Event | Date (MM/DD/YEAR) | Time (EDT) |
| White Paper Due Date | 6/13/03 | 2 P.M. |
| Notification of Initial Navy Evaluations of White papers | 07/01/03 | _____ |
| Full Proposals Due Date | 07/22/03 | 2 P.M. |
| Notification of Selection for Award | 08/15/03 | _____ |
| Awards | 10/15/03 | _____ |

***These dates are estimates as of the date of this announcement.**

4. Submission of Late Proposals –

Any proposal, modification, or revision, that is received at the designated Government office after the exact time specified for receipt of proposals is “late” and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and

- If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(b) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or

(c) It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal, that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

5. Address for the Submission of White papers, if applicable, and Full Proposals –

Office of Naval Research
Ballston Center Tower One
Attn: Major Craig Penrose, ONR 353
Room 507-9
Ballston Tower One
800 North Quincy Street
Arlington, VA 22217-5660
Telephone Number: (703) 696-2561

NOTE: PROPOSALS SENT BY FAX OR E-MAIL WILL NOT BE CONSIDERED.

V. EVALUATION INFORMATION

1. Evaluation Criteria –

Criteria for Selecting Proposals, their Relative Importance, and the Method of Evaluation

The evaluations of White Papers and full proposals will be conducted using the following criteria, which are listed in descending order of importance:

- A. Overall scientific and technical merit
 - 1. The degree of innovation
 - 2. The soundness of technical concept
- B. Programmatic relevance of the proposal
- C. Offeror's capabilities, related experience, facilities and past performance, including the qualifications, capabilities and experience of the principal investigator and key personnel.
 - 1. The quality of the technical personnel proposed
 - 2. The Offeror's experience in relevant efforts with similar resources
 - 3. The ability to manage the proposed effort
- D. Realism of the proposed cost and extent to which the cost effectiveness of the proposed research is diminished by expenditures for excessive administrative and overhead expenses

For proposed awards to be made as contracts to large businesses, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

2. Evaluation Panel -

Government technical experts from the Office of Naval Research and possibly other Federal entities will perform the evaluation of proposals. The Government may use selected non-government personnel or support contractor personnel to assist in the evaluation and administrative functions of any White Papers and proposals ensuing from this solicitation. Such non-government personnel will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements –

- CCR - Successful Offerors not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to award of any grant, contract, cooperative agreement, or other transaction agreement. Information on CCR registration is available at <http://www.onr.navy.mil/02/ccr.htm>.
- Certifications – Proposals should be accompanied by a completed certification package which can be accessed on the ONR Home Page at Contracts & Grants. For grant proposals and proposals for cooperative agreements or other transaction agreements (other than for prototypes), the certification package is entitled, "[Certifications for Grants and Agreements](#)." For contract proposals and for other

transaction proposals involving prototypes (Section 845 agreements), the certification package is entitled, "[Representations and Certifications for Contracts.](#) "

- Subcontracting Plans - Successful contract proposals that exceed \$500,000, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award.

2. Reporting -

The following deliverables, primarily in contractor format, are anticipated as necessary. However, specific deliverables should be proposed by each Offeror and finalized with the contracting agent:

- Technical and Financial Progress Reports
- Presentation Material
- Other Documents or Reports
- Final Report

VII. OTHER INFORMATION

1. Government Property/Government Furnished Equipment (GFE) and Facilities

Each proposer must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. It is the Government's desire to have the contractors purchase the equipment/hardware for deliverable items under their contract. The purchase on a direct reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

Government research facilities and operational military units are available and should be considered as potential government furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for this topic. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain which of these facilities they recommend.

2. Use of Animals and Human Subjects in Research

If animals are to be utilized in the research effort proposed, the Offeror must submit a completed DoD Animal Use Protocol with supporting documentation (copies of AAALAC accreditation and /or NIH assurance, IACUC approval, research literature

database searches, and the two most recent USDA inspection reports) prior to award. Similarly, for any proposal that involves the experimental use of human subjects, the Offeror must submit copies of the approval documentation from the Offeror's committee for protection of human subjects (normally referred to as an Institutional Review Board, (IRB)). The Offeror must also provide copies of the NIH (OHRP/DHHS) documentation of a Federal Wide Assurance and the consent form that covers the proposed human subjects study. If the Offeror does not have a Federal Wide Assurance, a DoD Single Project Assurance for that work must be completed prior to award. Please see <http://www.onr.navy.mil/02/howto.htm> for further information.

3. Recombinant DNA – Special information that is needed when experiments will be performed using recombinant DNA: proposals using recombinant DNA must include documentation of compliance with DHHS recombinant DNA regulations, approval of the Institutional Biosafety Committee (IBC), and copies of the DHHS Approval of the IBC letter.